

FIG.2

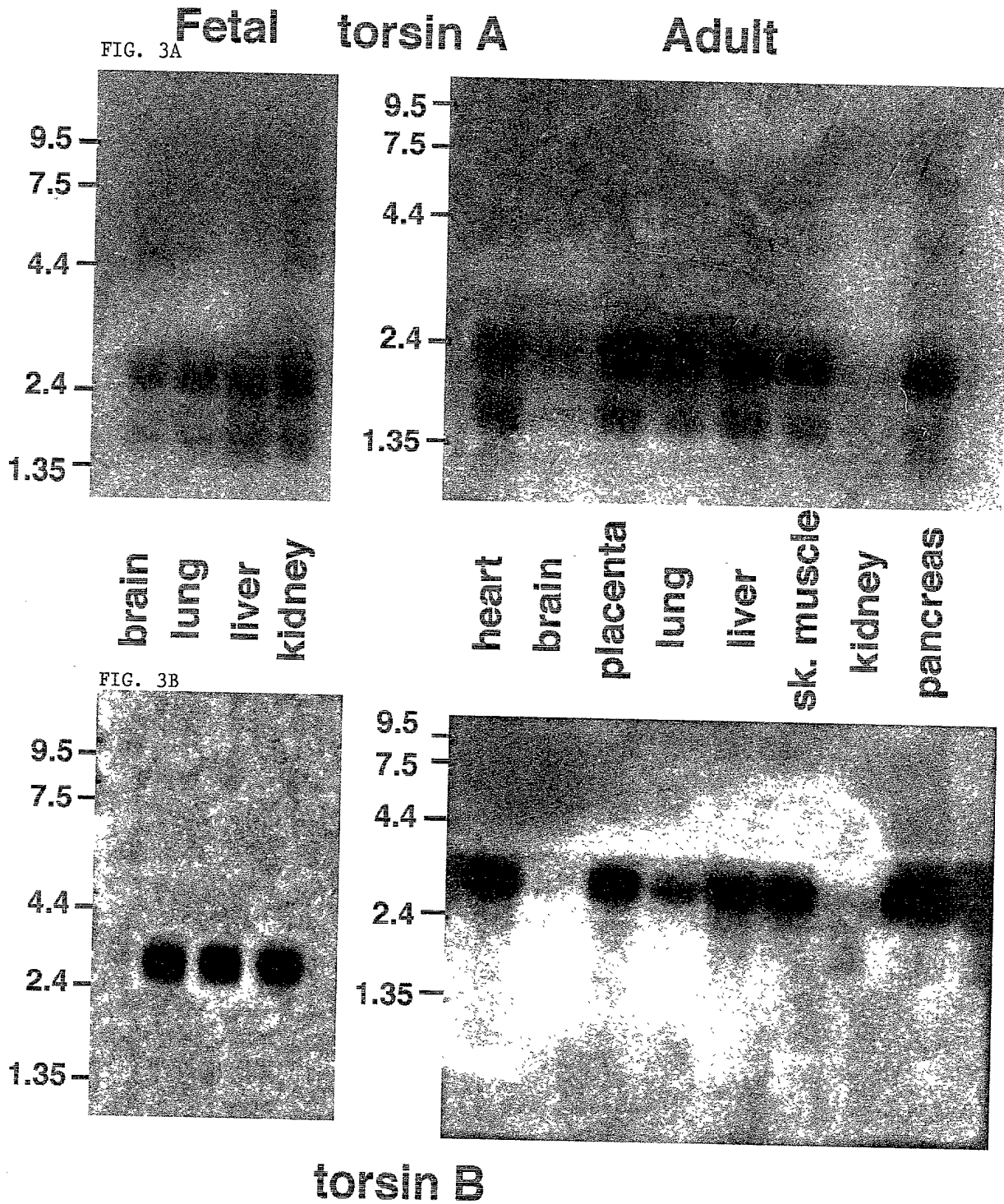
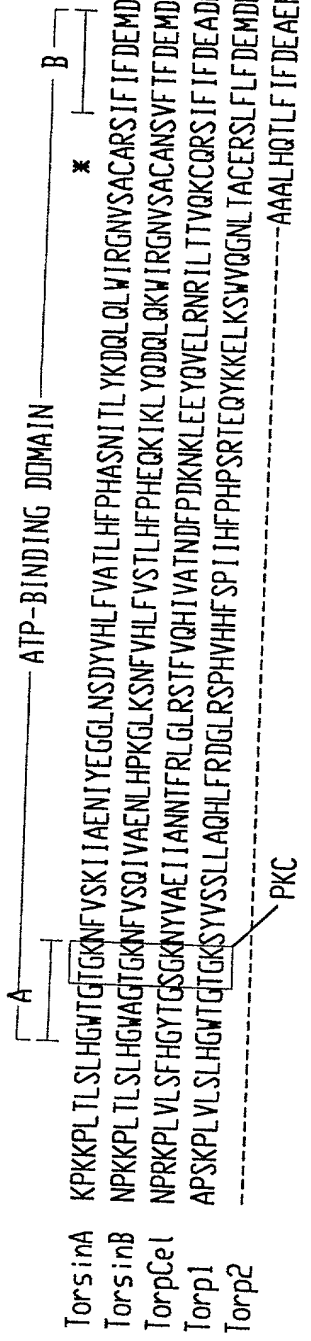


FIG. 4A

TorsinA --MKLGRAVLGLLLAPSVVQAVEPISLGLALAGVLIGYIYP-----RLYCLFAECC-GGKRSLSREALQKDLDDNLFGGHLAGKILINAVFGFINNP
 TorsinB -----LDLEKLFGGHLAGTEVIFKALTGFRNNK
 TorpCel MWMKLDY-VLLLLFHLFCFVNTELISVITGKIKDSGTTIAISAGAFWGLKDRKCYLYECCEPDVNFNYHTLDADIANLLFGGHLVKDVVVSISKSHWYNE
 Torp1 -----LECDLAQHLAGHLAGKALVKVSLKAFVQDDP
 Torp2 -----



TorsinA KPKKPLTSLHGWGTGKGFVSKIJAENIYEGGLNSDYVHLFVATLHFPHASNITLYKQQLQWIRGNVSACARSIFIFDEMCKMHAGLIDAIPFLD-YY
 TorsinB NPKKPLTSLHGWAGTGKGFVSQJVAENLHPKGLKSNFVHLFVSTLHFPHEQIKLYQDQLQKWIRGNVSACANSVTFDEMCKLHPGIDAIPFLD-YY
 TorpCel NPRKPLVLSFHGYTGSGKNYVAEIJANNIFRLGLRSTFVQHIVATNDFDKNKLLEYQVELRNRIITTVQKCORSIFIFDEADKLPEQLLGAIPFLD-YY
 Torp1 APSKPLVLSLHGWGTGKGSYVSSLLAQHLFRDGLRSPVHHSPIIHFPHPSRTEQYKKEKLSWQGNLTACERSLFDDEMCKLPPGLMEVLQPFLLG-PS
 Torp2 -----AAALHQTLFIFDEAEKLPGLLEVLGPHLERRA

TorsinA DLVDGVSQKAMFIFLSNAGAERTIDVALDFWRSKGQREDIKLDIEHALSVSVFNKNKSGFWHSSLIDPNLIDYFVPFLPLEYKHLKMCIRVEMQSRGY-
 TorsinB EQVDGVSXYKKAIFIFLSNAGGDLITKTALDFWRAGRKREDIQKDLPEVLSVGVFNNKHSGLWHSGLIDKNLIDYFIPFLPLEYRHHVCMVRAEMRARG-
 TorpCel STISGVDFRRSIFILLSNKGGGETARTKEQYESGYPREQLRLEAFERELMNFVNEK-GGLQMSSELISNHLIDHFVPFLPLQREHVRSCVGYLKRGRG
 Torp1 WVVYGTNYRKATIFISNAGGEQINQVALEAWRTNRDREEISLQVEPVISRAVMDNPQHGFVRSGMTIEEHLDAVVPFLPLQRHHVRHCVLNELAQGL-
 Torp2 PEXXGLSLXWTIFLFLSNLRGDIINEVVLKLLKAGWSREEITMEHLEPHLQAEIVDDHRQVLWHSRLVKENLIDYFIPFLPLEYRHHVRLCARDALFSLQEL-

TorsinA --EIDEDIVSRVAEEMTFPKEERVFSDKGCKTVFTKLDYVYDD
 TorsinB --AIDEDIVTRVAEEMTFPRDEKIVSDKGCKTVQSRLLDFH
 TorpCel DLVSNVDFVERVLSLQYFPESKAFSSSGCKRV
 Torp1 --EPARRWFRRCWTD--TYFPEVEQLFSSNGCKTVASRLTFFL
 Torp2 --LYKEETLDEIAQMMVVPKKEQLFSSQGCKSIXQRILKLPVMXG

FIG. 4A

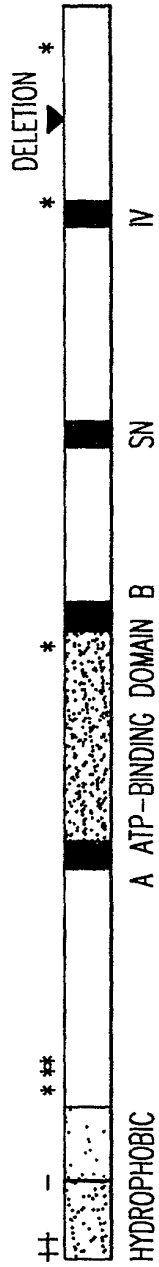


FIG. 4B